

## LSF SUBMIT COMMAND

To submit a job to LSF, the following command is used:

```
$ bsub < myscript
```

where *myscript* is a file that contains the *bsub* options for the given job.

### DIRECTIVE SYNTAX

These options are given in the form of

```
#BSUB option [value]
```

where some options may require values to be included.

Typically, the first line in the script is the specific shell under which the script should be executed. For example,

```
#!/bin/ksh
```

would run the script under ksh.

## JOB ENVIRONMENT DIRECTIVES

Control the environment in which the script operates.

Directive	Options	Description
<i>-P</i>	Project name	Charge the specified project name.
<i>-u</i>	User name	Run the job as the specified user.
<i>-V</i>	NONE	Export the environment.

## REPORTING DIRECTIVES

Control standard output, error, and mail reporting.

Directive	Options	Description
<i>-B</i>	NONE	Send mail when the job begins execution.
<i>-N</i>	NONE	Send mail when the job finishes.
<i>-e</i>	File	Define standard error file.
<i>-o</i>	File	Define standard output file.
<i>-i</i>   <i>-is</i>	File	Define standard input file.
<i>-u</i>	E-mail address	Send mail to address.

## JOB CONTROL DIRECTIVES

Specify how and where to run a job.

Directive	Options	Description
<i>-b</i>	Begin Time	Start this job after a given time.
<i>-J</i>	Name	Name of the job.
<i>-k</i>	Directory [period] [name]	Checkpoint the job after a given period of time (optional) with the given method (optional).
<i>-q</i>	Name	Name of the queue.
<i>-r</i>	NONE	Specifies that the job is rerunnable.

**LIMIT DIRECTIVES**

Specify resource limits to run a job. Note that all times are to be specified with hh:mm.

Directive	Options	Description
<i>-n</i>	Number	Number of CPUs to be used.
<i>-W</i>	Time	Maximum wall-clock time.
<i>-c</i>	Time	Total time used by all the processes.
<i>-F</i>	Size (Kbytes)	Maximum size of any single file.
<i>-M</i>	Size (Kbytes)	Maximum memory used by all processes.

**LIMIT DIRECTIVES**

Specify resource limits to run a job. Note that all times can be specified as

*[hours:]minutes*

As an example, the following are valid times:

Time	Explanation
<i>120</i>	120 minutes
<i>30:10</i>	30 hours and 10 minutes
<i>12:00</i>	12 hours and 0 minutes

**JOB DEPENDENCY DIRECTIVES**

Specify the dependencies on other jobs. In LSF, the dependencies are specified with the following syntax:

#BSUB -w 'dependency expression'

where the dependency expression is a list of dependencies separated by the logical operators && (and), || (or), ! (not).

Directive	Options	Description
<i>done</i>	(jobid   "job name" ...)	Run after job state is DONE.
<i>ended</i>	(jobid   "job name" ...)	Run after job state is EXIT or DONE.
<i>jobid   "job name"</i>	NONE	Run after the specified job is DONE.
<i>started</i>	(jobid   "job name" ...)	Run after the specified job is RUN, DONE, or EXIT.